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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,798	10/06/2004	Chiu-Hao Cheng		5797

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ZEROPLUS TECHNOLOGY CO., LTD.  
2F-4, NO. 184, SEC. 4, CHUNG HSIAO EAST ROAD  
TAIPEI,  
TAIWAN

EXAMINER
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SZABO, STEPHEN J

ART UNIT	PAPER NUMBER
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3714

MAIL DATE	DELIVERY MODE
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12/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/711,798	<b>Applicant(s)</b> CHENG ET AL.	
	<b>Examiner</b> STEPHEN SZABO	<b>Art Unit</b> 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-18 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,955,598 to Hagiwara et al.**

3. Regarding claim 10, Hagiwara teaches a photographic pointer positioning system comprising a game machine main unit (game machine body – column 3, line 20), a display screen connected to said game machine main unit for video output (display unit – column 2, line 2), and a photographic pointing device connectable to said game machine main unit (operation member – column 2, line 4), said photographic pointing device comprising a control circuit (control unit – column 2, lines 7-8), a communication interface (predetermined cable – column 3, line 23), a camera (image recognizing means – column 3, line 40), at least one reference sign (detection object – column 2, line 3), and a set of buttons (trigger – column 3, line 35 – it would have been obvious to one having ordinary skill in the art at the time the invention was made to have more than one button since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8), wherein: said control circuit controls the operation of said camera and receives image signal from said camera (when the trigger [...] is pulled while the muzzle

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of [the] controller [...] is directed to the target [...], the image of frame [...] is recognized, column 4, lines 55-58); said camera is controlled by said control circuit to take the picture of a whole display area of said display screen and to transmit the obtained image signal to said control circuit (the whole display area may be used as the display region – column 2, lines 55-56), said at least one reference sign is respectively mounted in said display screen for reference in scan and recognition processing to be done by said game machine main unit to accelerate the processing speed (it would have been obvious to one having ordinary skill in the art at the time the invention was made to place the reference sign anywhere within the captured area since it has been held that rearranging of parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70); said communication interface is controlled by said control circuit to transmit the image signal from said camera to said game machine main unit for further scan and recognition processing (the position data is sent to the game machine body - column 4, lines 49-50); said buttons are respectively electrically connected to said control circuit for operation by user (one having ordinary skill in the art at the time the invention was made would know that in order for the invention of Hagiwara to function, the trigger must necessarily be connected electrically to the control circuit in some manner), said game machine main unit calculates the coordinate value of the aiming point of said camera at said display screen subject to the image signal received from said camera and outputs the calculated data to said display screen for output (the coordinate data of the reference image and the image after the movement are compared with each other, an amount of movement of the center [...] is calculated with [the] CPU [...] and the

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position data obtained by this calculation is sent to the game body - column 4, lines 45-50).

4. Regarding claim 11, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said at least one reference sign is respectively formed of an illuminator (a self-light-emitting radiating member or reflecting member is used as the identification member and the identification member is identified as the detection object - column 6, lines 65-67 and column 7, line 1).

5. Regarding claim 12, Hagiwara teaches the photographic pointer positioning system as claimed in claim 11, wherein said illuminator is a light emitting diode or bulb (one having ordinary skill in the art at the time the invention was made would know that there are only a finite number of types of illuminators and using either an LED or bulb would be obvious to try).

6. Regarding claim 13, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said at least one reference sign is respectively installed in a the border area of said display screen outside the display area of said display screen (the detection object is set as a frame surrounding the display area in the display unit – column 2, lines 16-17 – also see arguments in paragraph 3 supra).

7. Regarding claim 14, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said at least one reference sign is respectively mounted within the display area of said display screen (see arguments in paragraph 3 supra).

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8. Regarding claim 15, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said game machine main unit is a computer system, big game machine, TV game machine or computer terminal system (a computer body installing a game software – column 3 line 21).

9. Regarding claim 16, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said communication interface is connected to said game machine main unit by a signal line for wire communication with said game machine main unit (see argument in paragraph 3 supra).

10. Regarding claim 17, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said communication interface is a wireless communication interface for wireless communication with said game machine main unit (one having ordinary skill in the art at the time the invention was made would know that a common improvement of communication interfaces in the art is to make them wireless).

11. Regarding claim 18, Hagiwara teaches the photographic pointer positioning system as claimed in claim 10, wherein said photographic pointing device provides functions of an optical mouse, a tablet and a light gun (gun controller for the game machine – column 7, line 4 – the designated position detector is used in such a manner that position is designated for the game content displayed on the display area by moving the controller while it is directed towards the display area – column 2, lines 37-40 – one having ordinary skill in the art would recognize that the use of an optical

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mouse, a tablet, and a light gun is to direct the point at which the user is interfacing with the game system).

12. **Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,955,598 to Hagiwara et al. in combination with “The Mechanical Engineer’s Pocket-book: A Reference Book of Rules, Tables, Data, and Formulae, for the Use of Engineers, Mechanics, and Students” by William Kent (herein referred to as Kent).**

13. Regarding claim 21, Hagiwara teaches a photographic pointer positioning processing process for a photographic pointer positioning system comprising a game machine main unit, a display screen connected to said game machine main unit for video output, and a light gun-like photographic pointing device connected to said game machine main unit, said photographic pointing device comprising a control circuit, a communication interface, a camera, at least one reference sign and a set of buttons, said photographic pointer positioning processing process comprising (see arguments in paragraph 3 supra): (A) mounting said at least one reference sign in the border area of said display screen around a display area (see arguments in paragraph 3 supra); (B) controlling said camera to pick up an image of said whole display area of said display screen and to send an image signal back to said control circuit (see arguments in paragraph 3 supra); (C) driving said control circuit to send the image signal obtained from said camera to said game machine main unit via said communication interface (see arguments in paragraph 3 supra); (D) controlling said game machine main unit to run scan and recognition processes by using said at least one reference sign for

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comparison (see arguments in paragraph 3 supra); (E) driving said game machine main unit to compare the processed data to the pixels of said camera so as to obtain coordinate values of the four comers of said display area of said display screen in the photographed picture (the corner of a display area [...] [and] the right lower corner of the frame - Hagiwara column 4, lines 37-44 - one having ordinary skill in the art at the time the invention was made would know that once the upper left and lower right corners have been found and because most common displays are rectangular in shape that the other corners are also known); (F) driving said game machine main unit to put the coordinate values of four comers of said display area of the display screen in the photographed picture and a coordinate value of the center point of the camera into a distance formula so as to obtain every side length of said display area of said display screen in the photographed picture (using an affected simultaneous quadratic formula to obtain X, Y values by determining the center point with the distance formula for use as a coordinate axis is commonly known and can be evidenced by Kent pages 35-36 – additionally this method may be used when “the coordinate position data of the frame [...] is calculated” - Hagiwara column 6, lines 1-2), (G) controlling said game machine main unit to calculate a proportional value of every side length of said display area of said display screen in the photographed picture relative to respective actual side length of said display screen, and then multiply every side length of said display area of said display screen in the photographed picture by the respective proportional value so as to obtain an actual side length data of every side of said display screen; (H) driving said game machine main unit to write an affected quadratic simultaneous equation based on



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the actual side length data of every side length of said display screen and to determine quadratic simultaneous equation as to obtain X, Y values of the aiming point of said camera; and (I) driving said game machine main unit to output the X, Y values of the aiming point of said camera to said display screen for further game program processing.

### ***Response to Arguments***

14. Applicant's arguments with respect to claims 10-18 and 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 3,659,284 to Rusch

U.S. Patent 5,926,168 to Fan

U.S. Patent 6,323,838 to Thanasack et al.

U.S. Publication 2005/0270494 to Banning

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN SZABO whose telephone number is (571)270-3995. The examiner can normally be reached on Mon-Fri (alternate Fri off) 9 a.m. - 4 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott E. Jones/  
Primary Examiner, Art Unit 3714

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